1. (Original) A method for dynamically generating trace data reports in a semiconductor fabrication process employing fault detection control, the method comprising:

receiving specified data for a trace data report, the specified data including at least one of a parameter, a trigger, and a frequency for the trace data report;

automatically generating from a fault detection controller a request to a report generator for the trace data report, the request including the specified data;

formulating the trace data report responsive to the request; and

returning the formulated trace data report from the report generator based on the request.

2. (Original) The method of claim 1, wherein receiving the specified data for the trace data report includes receiving the specified data by manual input.

3. (Original) The method of claim 1, wherein requesting the trace data report includes consulting a data store of available parameters.

4. (Original) The method of claim 3, wherein the data store comprises at least one of a database, a list, and a file.

5. (Original) The method of claim 3, wherein the report generator populates the data store with the available parameters.

6. (Original) The method of claim 1, wherein formulating the trace data report responsive to the request includes gathering specified data from a fabrication tool.

7. (Original) A computer programmed to perform a method for generating data reports in an advanced process control, semiconductor fabrication process, the method comprising:

receiving specified data for a trace data report, the specified data including at least one of a parameter, a trigger, and a frequency for the trace data report;

automatically generating from a fault detection controller a request to a report generator for the trace data report, the request including the specified data;

formulating the trace data report responsive to the request; and

returning the formulated trace data report from the report generator based on the request.

8. (Original) The programmed computer of claim 7, wherein receiving the specified data for the trace data report in the programmed method includes receiving the specified data by manual input.

9. (Original) The programmed computer of claim 7, wherein requesting the trace data report in the programmed method includes consulting a data store of available parameters.

10. (Currently Amended) The programmed computer of claim 9, wherein the data store comprises at least one of a database, a list, and a file.

B6

11. (Original) The programmed computer of claim 9, wherein the report generator populates the data store with the available parameters.

12. (Original) The programmed computer of claim 7, wherein the fault detection controller and the report generator reside on a single computer.

13. (Original) The programmed computer of claim 7, wherein the fault detection controller and the report generator reside on different computers.

14. (Original) The programmed computer of claim 7, wherein formulating the trace data report responsive to the request in the programmed method includes gathering specified data from a fabrication tool.

15. (Original) A computer-readable, program storage medium encoded with instructions that, when executed by a computer, perform a method for generating data reports in an advanced process control, semiconductor fabrication process, the programmed method comprising:

receiving specified data for a trace data report, the specified data including at least one of a parameter, a trigger, and a frequency for the trace data report;

automatically generating from a fault detection controller a request to a report generator for the trace data report, the request including the specified data;

formulating the trace data report responsive to the request; and

returning the formulated trace data report from the report generator based on the request.

16. (Original) The computer-readable, program storage medium of claim 15, wherein specifying data for a trace data report in the programmed method includes receiving the specified data by manual input.

17. (Original) The computer-readable, program storage medium of claim 15, wherein requesting the trace data report in the programmed method includes consulting a data store of available parameters.

18. (Original) The computer-readable, program storage medium of claim 17, wherein the data store comprises at least one of a database, a list, and a file.

B6

19. (Original) The computer-readable, program storage medium of claim 17, wherein the report generator populates the data store with the available parameters.

20. (Original) The computer-readable, program storage medium of claim 15, wherein the fault detection controller and the report generator reside on a single computer.

21. (Original) The computer-readable, program storage medium of claim 15, wherein the fault detection controller and the report generator reside on different computers.

22. (Original) The computer-readable, program storage medium of claim 15, wherein formulating the trace data report responsive to the request in the programmed method includes gathering specified data from a fabrication tool.

23. (Previously Presented) A semiconductor fabrication processing system, comprising:

a fabrication tool capable of providing at least one of specified data and a trace data report;

a fault detection controller implementing a fault detection control, the fault detection controller being capable of automatically generating a request for the trace data report, the request including the specified data;

a report generator capable of requesting at least one of the specified data and the trace data report from the fabrication tool and capable of, if the specified data is requested from the fabrication tool, providing the trace data report; and

an operator interface for receiving specified data for the trace data report, the specified data including at least one of a parameter, a trigger, and a frequency for the trace data report, and to which the trace data report may be returned from at least one of the report generator and the fabrication tool.

24. (Original) The semiconductor fabrication processing system of claim 23, wherein the operator interface includes a graphical user interface.

25. (Original) The semiconductor fabrication processing system of claim 23, further comprising a data store of available parameters that may be received as the specified data.

26. (Currently Amended) The semiconductor fabrication processing system of claim 25, wherein the data store comprises at least one of a database, a list, and a file.

27. (Original) The semiconductor fabrication processing system of claim 25, wherein the report generator is capable of populating the data store with the available parameters.

28. (Original) The semiconductor fabrication processing system of claim 23, wherein at least two of the fault detection controller, the operator interface, and the report generator reside on the same computer.

29. (Original) The semiconductor fabrication processing system of claim 23, wherein the fault detection controller and the report generator reside on different computers.

30. (Previously Presented) An advanced process control, semiconductor fabrication processing system, comprising:

means for fabricating a wafer, the fabricating means being capable of providing at least one of specified data and a trace data report;

means for implementing a fault detection control, the fault detection control means being capable of automatically generating a request for the trace data report, the request including the specified data;

means for generating a report, the report generating means being capable of requesting at least one of the specified data and the trace data report from the fabricating means and capable of, if the specified data is requested from the fabricating means, providing the trace data report; and

means for interfacing with an operator, through which an operator may specify the data for the trace data report, the specified data including at least one of a parameter, a trigger, and a frequency for the trace data report, and to which the trace data report may be returned from at least one of the report generating means and the fabricating means.

B6

31. (Original) The semiconductor fabrication processing system of claim 30, wherein the interfacing means includes a graphical user interface.

32. (Currently Amended) The semiconductor fabrication processing system of claim 30, further comprising means for storing ~~the~~ identities of available parameters that may be specified.

33. (Original) The semiconductor fabrication processing system of claim 32, wherein the storing means comprises at least one of a database, a list, and a file.

34. (Original) The semiconductor fabrication processing system of claim 32, wherein the report generating means is capable of populating the storing means ~~data store~~ with the available parameters.

35. (Currently Amended) The semiconductor fabrication processing system of claim 30, wherein at least two of the fault detection control means, the interfacing means, and the report generating means reside on the same computer.

36. The semiconductor fabrication processing system of claim 30, wherein the fault detection controller and the report generator reside on different computers.